

News release

Climate change impacts

21 November 2005

Further evidence of the impacts of the changing climate has been revealed in a recent issue of *Geophysical Research Letters*, which claims that by the end of the 21st century, the warmest summer nights in the European region could be as warm as 25 °C.

Scientists at the Met Office's Hadley Centre have shown that the warmest nights of the year have warmed significantly over the last 50 years, and simulations suggest that this trend will continue. Predictions run on sophisticated climate computer models suggest that by 2100, night-time temperatures in Europe could have warmed by as much as 6 °C. Sustained high night-time temperatures are a signature of the most severe heatwaves and have a significant impact on our health.

The findings also show a significant warming of the coldest days and nights of the year, adding further weight to the theories of global warming. Significantly, analyses were based on Hadley Centre climate models with and without human influences and incorporated observed data. These found that natural factors on their own - such as changes in the Sun's radiation and volcanic activity - cannot explain the observed warming. On the other hand, the impact of greenhouse gas emissions was detected in the warming of the coldest days and nights, as well as the warmest nights of the year.

Reference

Christidis, N., Stott, P.A., Brown, S., Hegerl, G.C. and Caesar, J., 2005: Detection of changes in temperature extremes during the second half of the 20th century. *Geophys Res Lett*, **32**, L20716, doi:10.1029/2005GL023885.

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